Gordon Chappell

The Sacramento Locomotive Works of the Central Pacific and Southern Pacific Railroads, 1864-1999

Threatened by floods in recent years, a change in corporate ownership, and obsolescence, the Sacramento Locomotive Works of the Southern Pacific Railroad has potentially the highest level of historical significance. The new owner of this industrial complex, the Union Pacific Railroad, has moved the few remaining active functions of this shop complex to Roseville, California. Standing on 119 acres of prime real estate immediately north of the downtown business district in Sacramento, California, it is an attractive area for both city government and real estate interests for residential or commercial development, or both. Meanwhile, the shops stand almost entirely vacant, and the city and real estate interests plan to demolish most of the complex. The Union Pacific has agreed to lease two buildings plus a transfer-table pit and the turntable to the California State Railroad Museum, a part of the California State Park system. But that is a small fraction of the shop complex. The significance of the complex cannot be overstated.

This complex of railroad shops originated as the main shops of the Central Pacific Railroad, which began construction eastward in 1863 from the navigable waters of the Sacramento River which connected with San Francisco Bay and, through the Golden Gate Strait, with the Pacific Ocean. These shops and nearby waterfront trackage in Sacramento constituted the original western terminus of the Central Pacific. The Central Pacific had built eastward over the most difficult mountain construction that any railroad in the world had yet attempted, reaching a junction with the westward-building Union Pacific at Promontory Summit, Utah, on May 10, 1869. The Central Pacific thus formed half of the nation's first transcontinental railroad. Brick and timber buildings still stand in this complex of shops, which was constructed and in service before completion of the railroad. While the structure, reputed to be the earliest—built in 1864 while the Civil War still raged—burned in February 1996, other portions of the complex that date as early as 1867 or 1868 remain. These are the last surviving buildings of the first transcontinental railroad dating from its years of construction!

Sacramento Locomotive Works, showing boiler shop built c. 1888 with additions in 1905 and 1914.

The history of this complex began when the railroad was deeded a wetland known as China Slough for its shops, and built its first shop buildings—wood frame ones—in the vicinity of Sixth and H streets in Sacramento around the fall of 1863. The railroad prepared for the present complex of buildings by driving pilings in four feet of water until the tops were at the water line, then filled around the pilings with granite riprap from Rocklin, California, then sand and silt from the nearby Sacramento and American rivers. The railroad then laid four feet of solid granite on top of the piles and riprap, and began construction of brick and timber buildings. The last of these reached completion and was occupied in 1869. By 1869, a total of 20 acres had been reclaimed from the slough and filled to four feet above the

Sacramento General Shops, Southern Pacific Railroad. Interior of locomotive machine/erecting shop. Note California Northern Diesel-electirc locomotive no. 201.

water line, a job that kept more than 100 teams of animals at work.

The buildings in this complex with Central Pacific associations are also associated with the "Big Four" of California entrepreneurs: Collis Potter Huntington, Mark Hopkins, Charles Crocker, and Leland Stanford. The latter was destined to become a California governor and founder of a great university named for his late son, Leland Stanford, Jr.

Having built the Central Pacific (which in 1870 was extended to the shores of San Francisco Bay and, by ferryboats, to San Francisco itself), the Big Four in subsequent years began another project, the Southern Pacific Railroad. The Southern Pacific built first to southern California, then eastward across Arizona and New Mexico Territories in the 1870s and 1880s to a junction in Texas with a new subsidiary of the Southern Pacific, the Galveston, Harrisburg and San Antonio Railway. Through that railway, the Southern Pacific eventually acquired trackage all the way to the Gulf Coast via the Mississippi River at New Orleans. Similarly, through construction by subsidiaries operating under other names, and by buying up independent short lines, the Southern Pacific extended itself northward to the Columbia River at Portland, Oregon. Because its corporate structure was more flexible and useful for the purpose of such expansion, the Southern Pacific eventually even swallowed up the old Central Pacific Railroad. Thus, the shops in Sacramento became not merely the main shops of the Central Pacific (stretching from San Francisco to Ogden, Utah), but also the main shops of the Southern Pacific, which stretched from Portland through San Francisco and Los Angeles to Arizona, New Mexico, Texas, and ultimately, New Orleans. They served one of the nation's greatest railroad systems.

Most American railroads purchased their locomotives from a gradually shrinking number of locomotive builders, such as Burnham, Parry, Williams and Company's Baldwin Locomotive Works in Philadelphia; the Rodgers Locomotive Works in Paterson, New Jersey; the Schenectady Locomotive Works in Schenectady, New York; H. K. Porter & Company in Pittsburgh; the Mason Machine Works in Taunton, Massachusetts; and the Lima Locomotive Works in Lima, Ohio. Most of these concerns became consolidated during the 20th century into the Baldwin Locomotive Works and the American Locomotive Company, though the number would proliferate again briefly with the advent of diesel-electric locomotives before again shrinking to a minimum. But, as far back as the 1870s and 1880s, a few major railroads undertook to design and build their own locomotives, generally while still buying others from established locomotive-building firms. The Central Pacific and later Southern Pacific railroads were among those few which built their own locomotives, and it was at the Sacramento Shops that they undertook locomotive design and construction, principally under the direction of a talented staff of mechanics headed by General Master Mechanic Andrew J. Stephens. This activity lent the Sacramento Shops its later name: the Sacramento Locomotive Works. Thus, this shop complex was one of the few railroad-owned and operated shops in the nation in which a railroad company designed and built its own locomotives. It started with efficient, standard 4-4-0s, of which it began 10, the first completed in July, 1872. It went on to build 4-6-0s, 2-8-0s, and many other types, but also built experimental locomotives such as No. 229, an 1882 4-8-0 that proved so successful that the railroad ordered 20 more to the same specifications from a commercial locomotive builder, Cooke. A less successful experiment was No. 237, *El Gobernador* (Spanish for "The Governor," referring to Leland Stanford, Sr.), a massive 4-10-0. Between 1872 and 1937, the shops built more than 200 steam locomotives. Thus, the Sacramento Locomotive Works is a rare surviving example of a railroad shop complex in which

locomotives actually were designed and built, not merely repaired and remodeled.

According to Walter Gray, a recent director of the California State Railroad Museum, the system shops of the Southern Pacific Railroad constituted at one time the single largest industrial complex on the Pacific Coast, and probably west of the Rocky Mountains, for a number of decades. It employed as many as 7,000 people at one time. Here, the railroad not only built, repaired, remodeled, and maintained railroad locomotives and passenger and freight cars, but undertook many other activities. The railroad had its own glass manufacturing plant, the products of which can be seen in the older rolled glass in many of the shop buildings. It had a sawmill and planing mill in which logs from Oregon and northern California railroad timberlands were milled into bridge timbers and finished lumber for construction of railroad bridges and buildings across the system, and probably also for use in passenger and freight car construction or repair. The railroad had both brass and iron foundries to turn out car wheels, wheel bearings, and other components. It manufactured the drive shafts and other machinery of San Francisco Bay ferryboats owned by the company, and did job work for many other companies. In fact, there was little of a mechanical nature that these shops did not do.

As of the beginning of 1999, the shops still possessed much integrity. The 29-stall roundhouse built in 1868 unfortunately was torn down in the late 1950s to make room for a new building, but the last of several turntables that served that historic roundhouse is still in place, a rare survivor.

Interior of locomotive machine/erecting shop, built 1868-1869, with additions in 1875, 1888 and 1905.

The northeast corner of the Erecting Shop, constructed in 1868 as a machine shop, remains, enlarged to the west by construction of a later third shop bay and also extended further south. A transfer table was installed to the west of it, and the pit of that transfer table still is in place today, with its rails. The transfer table itself was donated to the California State Railroad Museum and has been dismantled and stored. It could easily be reinstalled. Transfer tables are far more rare than turntables!

Also built in 1868 and later used as a wheel shop, the Car Shop Mill was erected of brick and timbers. Adjacent to it, the railroad built a paint shop, also a brick building, where cars from the car shop were painted. Nearby, in 1868, the railroad built a blacksmith shop, in later years used as a rod shop, a welding shop, a machine shop, and to house a repair gang. A car machine shop built in 1888 later served as a locomotive wheel shop annex. A car shop built in 1872 served during the 1980s as a rotating shop and air room. In this building, mechanics worked until recently on electric motors and generators of diesel-electric locomotives, and locomotive airbrake equipment.

The railroad built the Passenger Car Truck Shop in 1888 as an extension of the Car Shop; it may have incorporated a hayloft for the horses once used to move the original car transfer table adjacent to the building between 1872 and 1895. In 1873, the railroad erected a new paint shop, which it enlarged in 1892 and later used as a car shop.

At the western edge of the complex, the railroad in 1888 tore down its 1872 boiler shop in order to install a second transfer table, and built along its west side a truly massive new boiler shop. This is the building, largely of corrugated metal exterior on a massive timber frame, whose clerestory today carries in large letters on its west side the designation "SACRAMENTO LOCOMOTIVE WORKS."

These are some of the key historic buildings which constitute the shop complex today, although there are others: the stores building, to the northeast; the sawmill and planing mill, farther east; a number of buildings along the south edge of the complex; and various historic buildings interspersed among those already mentioned. The whole complex consists of 198 acres and 30 major buildings. As late as 1953, the shops employed 4,130 people, including 947 machinists, 233 boilermakers, 353 blacksmiths,

323 sheet metal workers, and 1,382 carmen. The whole atmosphere and feel of the shop complex is that of late-19th- and early-20th-century industry. While machinery has come and gone, and the shops dealt in later years with diesel-electric and even diesel-hydraulic locomotives, the buildings themselves did not experience much change. It is as if, architecturally at least, the complex had frozen in time.

But, without some intervention now, this resource which has potential for National Historic Landmark status will largely be gone unless the case can be made for its preservation and adaptive use rather than demolition.

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Sacramento Shops [Map], Showing Buildings, January 20, 1920. Office of the Division Engineer, Southern Pacific Railroad.

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Photos by the author.

Robert A. Rowe

Pardon Me Boys, Is That the Naval Ordnance Choo-Choo?

Located in northern San Diego County, California, the Naval Ordnance Center, Pacific Division, Fallbrook Detachment's railroad system played several key roles in the development of the area and in the Allied victory in the Pacific during World War II. The contributions of this small railroad line are just coming to light, and were in danger of being erased completely.

Homesteading in the Fallbrook area began in the 1870s. The initial impetus for the development of what would become the town of Fallbrook was the arrival of the California Southern Railroad in 1882. Fallbrook Station was located on the southern bank of the Rio Santa Margarita, whereas the town itself was established on the high ground to the south. The Rio Santa Margarita has a long history of violent flooding episodes; sections of the Fallbrook line were erased four times between 1882 and 1916 due to massive flooding. The abandonment of the line through Temecula Canyon in 1891 and the loss of the transcontinental connection were major setbacks of the community, which as late as 1915 continued to press the State Railroad Commission to force the Atchison, Topeka and Santa Fe Railroad (AT&SF) to rebuild the line.

The Temecula cut-off was never restored, but the following year another major flood wiped out the remaining branch line, and, by 1917, Fallbrook at least had a better branch route that ran directly into town. This route enabled the community to export a variety of goods: olives, citrus and deciduous fruits, vegetables, honey, and poultry. In addition, a cannery was built in 1920. Throughout the next two decades, the Fallbrook Branch, which linked local products to markets, was a critical factor in the area's development.

In 1940, when the eastern portion of the Rancho Santa Margarita Land Grant was selected